

CLAIMS

What is claimed is:

1. A light reflector for PCB-mounted lights comprising:
 - a segmented top wherein each segment is generally planar and connected to the adjacent segment;
 - a back wall having a top portion connected to the segmented top, a generally planar bottom portion and opposing side portions;
 - a pair of opposing side walls connecting the segmented top to the back wall;
 - a plurality of interior walls defining chambers open on their bottom surface and front surface said interior walls connected on their top portion to the segmented top and connected on their rear portion to the back wall and having their bottom portions generally coplanar with the bottom of the back wall.
2. A light reflector as recited in claim 1 wherein the interior walls are opaque.
3. A light reflector as recited in claim 1 wherein the segmented top, back wall and interior walls are reflective to visible light.
4. A light reflector as recited in claim 3 wherein the segmented top, back wall and interior walls are diffusely reflective to visible light.
5. A light reflector as recited in claim 1 wherein at least one segment of the segmented top is in a plane which is substantially parallel to the plane defined by the bottom portions of the interior walls.
6. A light reflector as recited in claim 1 wherein at least one segment of the segmented top is in a plane which is at an acute angle to the plane defined by the bottom portions of the interior walls.

7. A light reflector as recited in claim 1 wherein the segmented top, back wall, opposing side walls and interior walls are formed of thermoplastic resin.

8. A light reflector as recited in claim 7 wherein the thermoplastic resin is a polycarbonate resin.

9. A light reflector as recited in claim 1 fabricated by the injection molding of a thermoplastic resin.

10. A light reflector as recited in claim 1 further comprising:
a generally planar support surface connected to and extending between a pair of adjacent interior walls in a plane generally parallel to the plane defined by the bottom portions of the interior walls;
a front wall connected to and extending between the support surface and the segmented top;
a mounting stud on the support surface for attaching the light reflector to a printed circuit board.

11. A light reflector as recited in claim 10 wherein the mounting stud comprises barbs for engaging a receiving hole in a printed circuit board.

12. A light reflector as recited in claim 10 wherein the mounting stud is threaded for receiving a similarly threaded nut.

13. A light reflector as recited in claim 10 wherein the mounting stud is generally cylindrical and comprised of a material which may be deformed at its distal end to provide a region of increased diameter.

14. An electronic device comprising:

a chassis having an interior space and a front surface for user interface;
an indicator panel having a front face and a back face and mounted in the front surface of the chassis;

a plurality of windows in the indicator panel for transmitting light from the back face to the front face of the indicator panel;

a printed circuit board mounted in the interior space of the chassis such that one edge of the printed circuit board is proximate the indicator panel in the front surface of the chassis;

a plurality of light emitting diodes mounted on the printed circuit board in a generally linear array parallel to and proximate the edge of the printed circuit board which is proximate the indicator panel;

a light reflector mounted on the printed circuit board and comprising a segmented top wherein each segment is generally planar and connected to the adjacent segment;

a back wall having a top portion connected to the segmented top, a generally planar bottom portion and opposing side portions;

a pair of opposing side walls connecting the segmented top to the back wall;

a plurality of interior walls defining chambers open on their bottom surface and front surface said interior walls connected on their top portion to the segmented top and connected on their rear portion to the back wall and having their bottom portions generally coplanar with the bottom of the back wall;

the light reflector being mounted on the printed circuit board over the plurality of light emitting diodes in the linear array such that each light emitting diode in the array is separated from an adjacent light emitting diode in the array by at least one interior wall of the light reflector and light emitted by each light emitting diode is reflected by the light reflector to a corresponding window in the indicator panel.

15. A printed circuit board comprising:

a plurality of light emitting diodes mounted on the printed circuit board in a generally linear array parallel to and proximate at least one edge of the printed circuit board;

a light reflector mounted on the printed circuit board and comprising a segmented top wherein each segment is generally planar and connected to the adjacent segment;

a back wall having a top portion connected to the segmented top, a generally planar bottom portion and opposing side portions;

a pair of opposing side walls connecting the segmented top to the back wall;

a plurality of interior walls defining chambers open on their bottom surface and front surface said interior walls connected on their top portion to the segmented top and connected on their rear portion to the back wall and having their bottom portions generally coplanar with the bottom of the back wall;

the light reflector being mounted on the printed circuit board over the plurality of light emitting diodes in the linear array such that each light emitting diode in the array is separated from an adjacent light emitting diode in the array by at least one interior wall of the light reflector and light emitted by each light emitting diode is reflected by the light reflector in a direction which is substantially parallel to the surface of the printed circuit board.

16. A light reflector for PCB-mounted lights comprising:

a top, the cross section of which generally corresponds to a segment of a parabola;

a back wall having an upper edge connected to the top, a generally planar bottom edge and opposing side edges;

a pair of opposing side walls connecting the top to the back wall;

a plurality of interior walls defining chambers open on their bottom surface and front surface said interior walls connected on their top portion to the top and connected on their rear portion to the back wall and having their bottom portions generally coplanar with the bottom edge of the back wall.

17. A light reflector as recited in claim 16 wherein the interior walls are opaque.
18. A light reflector as recited in claim 16 wherein the top is reflective to light.
19. A light reflector as recited in claim 18 wherein the top is diffusely reflective to light.
20. A light reflector as recited in claim 16 wherein the interior walls and undersurface of the top are reflective to light.
21. A light reflector as recited in claim 16 fabricated from a black, thermoplastic resin.